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element is not supported by page 27, lines 10-20 of Applicants' specification. Further, the Examiner asserts that the inert gas is used in sputtering to prevent any of the gas to interact with and contaminate the film being sputtered. In response, Applicants point out that when an inert gas is used in sputtering, that one of ordinary skill in the art should know that a specific amount of inert gas should be included in the film being sputtered. The inert gas may prevent contamination as stated by the Examiner, however, it should be obvious that the inert gas should be included in the film being sputtered as suggested by Applicants' specification at page 27, lines 10-20 accordingly. Based on the above argument, Applicants believe that the feature of "the first film and the second film comprises an inert element" is supported by Applicants' specification at page 27, lines 10-20 and respectfully request that the rejection of claims 1, 77-84, 87-90, 93-103, 105, 106, and 108-153 under 35 U.S.C. § 112, first paragraph be withdrawn.

Claims 1, 77, 79-81, 83, 84, 87, 89, 90, 93, 95-98, 100-103, 106, 108-111, 113-116 and 122-149 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki et al. (JP 11-154714 and the Derwent Translation of this document – hereafter Yamazaki), Ho et al. (U.S. Patent No. 4,680,854 – hereafter Ho) and Tsutsumi (U.S. Patent No. 5,844,274 – hereafter Tsutsumi). Further, claims 117, 118, 120, 121 and 150-153 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki, Ho and Tsutsumi, as applied to Claim 1 above, and further in view of Akbar (U.S. Patent No. 5,656,845 – hereafter Akbar). Still further, claims 78, 82, 88, 94, 99, 105 and 112 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki, Ho and Tsutsumi, as applied to Claim 1 above, and further in view of Koyama (U.S. Patent No. 5,793,344 – hereafter Koyama). Still further, claim 119 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki, Ho, Tsutsumi and Koyama, as applied to Claim 78 above, and further in view of Akbar. These rejections are respectfully traversed at least for the reasons provided below.

With respect to the independent Claims 1, 77-80 and 122-125, the Examiner asserts that it is obvious for a person of ordinary skill in the art to form a control gate electrode of the memory transistor of Yamazaki with the layer (comprising TaN and W) of the non-memory transistor of Tsutsumi. Further, the Examiner appears not to have addressed the argument of the most recent response, filed November 22, 2006. Applicants note that the transistor of Tsutsumi is not a memory transistor. Moreover, even if it can be said to be common to form

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the gate electrodes of layers comprising TaN/W/WN in the non-memory transistors of Tsutsumi, there is no teaching or suggestion in Tsutsumi to form the control gate electrode of the layers comprising TaN/W/WN in memory transistors. Thus, Applicants contend that Tsutsumi fails to teach or suggest applying the layer (comprising TaN and W) to the control gate electrode of the memory transistor, as presently claimed.

Further, Applicants contend that the layer comprising TaN and W brings an unexpected result only when the layer is used in the control gate electrode of the memory thin film transistor, as presently claimed. It is well known that the work function of the TaN is about 4.76 eV and that of the W is about 4.55 eV. Applicants contend that this high work function prevents the undesirable influx of the electrons from the control gate electrode into the floating gate electrode, when the memory transistor executes the erase operation. Hence, Applicants contend that it is not obvious to combine the layer of Tsutsumi with the memory transistor of Yamazaki.

In addition, Applicants note that the Examiner asserts that Ho makes obvious putting xenon into the claimed metal conductive film. With regard to this assertion, Ho might suggest to put xenon into composite conductors containing aluminum and aluminum alloy (col. 2, lines 42-45 of Ho), however, Ho fails to teach or suggest putting xenon into the composite conductors not containing aluminum such as the presently claimed composite conductors. In the case of Ho, xenon is doped in order to remove the native oxide over the aluminum (aluminum silicon) layer which appreciably increases the resistance of the composite conductor. Applicants contend that the discriminative native oxide over the aluminum (aluminum silicon) layer should be distinguished from the native oxide over the other metal (metal nitride) layers. Further, even if it is suggested to put xenon into the composite conductors containing aluminum, there is no teaching or suggestion to put xenon into the composite conductors containing tantalum nitride and tungsten. Hence, Applicants contend it is not obvious to put xenon into the composite conductors containing tantalum nitride and tungsten, as presently claimed. Therefore, it cannot be said that the combination of Yamazaki, Ho and Tsutsumi teaches or suggests the invention, as presently claimed.

The Examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. *MPEP* §2142. To establish a prima facie case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, to modify the

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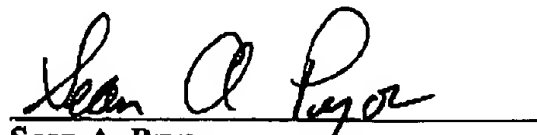
references or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art must teach all the claim limitations. *MPEP* §2142.

Applicants respectfully point to the final prong of the test, which states the prior art must teach all the claim limitations. At the very least, Yamazaki, Ho and Tsutsumi do not teach all of the claim limitations of independent claims 1, 77-80 and 122-125 for the reasons set forth above.

Akbar and Koyama do not cure the deficiencies of Yamazaki, Ho and Tsutsumi mentioned above. Therefore, Applicants respectfully submit that independent claims 1, 77-80 and 122-125 are allowable as discussed previously. Further, any claim that depends from an allowable claim is allowable as well. Thus, Applicants respectfully request that the rejection of the dependent claims likewise be removed.

In view of the foregoing, it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 1, 77-84, 87-90, 93-103, 105, 106 and 108-153 be allowed, and that the application be passed to issue. If a conference would expedite prosecution of the instant application, the Examiner is hereby invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,

  
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